

Applicant: McCormick
Serial No.: 10/713,334
Group Art No: 3752

PATENT
Atty Docket: 1506-310

AMENDMENTS TO THE CLAIMS

Please amend claims 1, 8, 13, 16 and 20 as set forth below.

Listing of Claims

1. (Currently Amended) An irrigation sprinkler for uniformly watering a target area comprising:

a sprinkler body;

a nozzle disposed on said sprinkler body;

said nozzle comprising a substantially hollow, cylindrically shaped body having a first end, a second end and a flow passageway extending therebetween surrounded by an internal wall; and

a plurality of stepped, radial offsets formed along said internal wall such that an internal diameter of said nozzle progressively decreases from said first end to said second end of said nozzle.

2. (Original) The irrigation sprinkler of claim 1 wherein said nozzle is removable from said sprinkler body.

3. (Original) The irrigation sprinkler of claim 1 further including at least one fin formed along said internal wall to reduce fluid turbulence.

4. (Original) The irrigation sprinkler of claim 3 wherein said fin is aligned parallel to fluid flow.

5. (Original) The irrigation sprinkler of claim 1 wherein said first end is attached to a fluid source.

6. (Withdrawn) The irrigation sprinkler of claim 1 wherein said second end is attached to a fluid source.

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7. (Withdrawn) The irrigation sprinkler of claim 1 wherein said stepped radial offsets are arranged at various angles to decrease a boundary layer of fluid within said nozzle.

8. (Currently Amended) An irrigation sprinkler for uniformly watering a target area comprising:

a sprinkler body;

a nozzle disposed on said sprinkler body;

said nozzle comprising a substantially hollow, cylindrically shaped body having a first end, a second end and a flow passageway extending therebetween surrounded by an internal wall;

a plurality of stepped, radial offsets formed along said internal wall such that an internal diameter of said nozzle incrementally decreases from said first end to said second end of said nozzle; and

at least one fin formed along said internal wall to reduce fluid turbulence.

9. (Original) The irrigation sprinkler of claim 8 wherein said nozzle is removable from said sprinkler body.

10. (Original) The irrigation sprinkler of claim 8 wherein said fin is aligned parallel to fluid flow.

11. (Original) The irrigation sprinkler of claim 8 wherein said first end is attached to a fluid source.

12. (Withdrawn) The irrigation sprinkler of claim 8 wherein said second end is attached to a fluid source.

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13. (Currently Amended) The irrigation sprinkler of claim 8 wherein said stepped radial offsets are arranged at ~~various angles~~ an angle relative to the nozzle to increase a boundary layer of fluid within said nozzle.
14. (Withdrawn) The irrigation sprinkler of claim 8 wherein said stepped radial offsets are arranged at various angles to decrease a boundary layer of fluid within said nozzle.
15. (Withdrawn) The irrigation sprinkler of claim 14 wherein said boundary layer flows at a rate less than a centerline fluid velocity.
16. (Currently Amended) A method of uniformly watering a target area comprising:
- providing a sprinkler attached to a fluid source;
 - introducing fluid from said fluid source to said sprinkler;
 - urging said fluid to an exit of said sprinkler; and
 - increasing a boundary layer thickness of said fluid as it exits said sprinkler by urging said fluid through a plurality of stepped offsets along an internal surface forming a decreasing diameter along said exit.
17. (Original) The method of claim 16 further comprising maximizing a throw radius of said sprinkler by maintaining boundary layer fluid flow at a rate less than centerline velocity.
18. (Original) The method of claim 17 further comprising producing even water distribution over said throw radius.
19. (Original) The method of claim 16 further comprising providing at least one fin formed along said stepped internal surface to reduce fluid turbulence.

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20. (Currently Amended) The method of claim 19 further comprising providing a nozzle within said exit of said sprinkler to form a water stream projecting from one side said of said sprinkler.